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10/599,185	09/22/2006	Yucheng Li	CN 040012	5612

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EXAMINER	
NGO, CHUONG A	
ART UNIT	PAPER NUMBER
4133	
MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/599,185	LI ET AL.	
	Examiner	Art Unit	
	CHUONG A. NGO	4133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 June 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/8/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the Applicants' communication filed on 9/22/2006. In virtue of this communication, claims 1-39 are currently presented in the instant application.

Drawings

2. The drawings submitted on 6/13/2008. These drawings are reviewed and accepted by the examiner.

Priority

3. Receipt is acknowledged of paper submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

4. The information Disclosure Statement (IDS) Form PTO-1449, filed on 3/8/2007 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosed therein was considered by the examiner.

Claim Objections

5. Claims 1-3, 5, 9, 11, 13, 16, 17, 21, 23, 28, 30, 35 objected to because of the following informalities: Applicant frequently use “the” instead of “a” in the claims, for example, in claim 1, the applicant see “the UE” instead of “a UE”. Applicant should go through all claims from 1-39 and correct them. Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, 5, 12, 15-17, 19, 20, 22-25, 34-38 are rejected under 35 U.S.C. 102(b) as anticipated by US Patent Application Public 20020110099 (hereinafter Zeira).

Regarding claim 1, the claim limitation of "A method for implementing downlink JD (Joint Detection) in TDD CDMA communication systems to be performed in the UE, comprising the steps of: receiving downlink signal from a network system in a specific timeslot" is met by Zeira teaches in (paragraph [0017] At a UE receiver 28, radio frequency signals are received by an antenna 40. The received signals are demodulated to a baseband signal, such as by a mixer 42. A channel estimation device 44 is used to estimate the channel that the communication bursts were transmitted in using the transmitted midamble codes. A multi-user detection (MUD) device 46 processes the baseband signal using the estimated channel information and the active channelization codes to produce hard symbols. Also see paragraph 18 and Fig. 2 for time slot);

the claim limitation of "obtaining an active primary and secondary channelisation codes in the specific timeslot, through processing the downlink signal" is met by Zeira teaches in (paragraph [0018] Identifying active

channelization codes is shown in the flow chart of FIG. 4. One approach to aid in identifying active channelization codes at the UE 14_1 is to provide a mapping between midamble codes (midamble sequences) 54_1 to 54_N and channelization codes 56_{11} to 56_{NM}, 58. Each midamble sequence 54_1 to 54_N is associated with a set of channelization codes 56_{11} to 56_{NM}, as illustrated in FIG. 5. The sets may contain only a single channelization code, which is a one to one mapping of midambles to channelization codes. A burst transmitted by the base station 12_1 with a channelization code of a midamble's set is formatted with that midamble sequence, 60, 62. To illustrate, if a burst with channelization code 21 was sent, midamble sequence 2 is used for that burst. Also see paragraph 21);

the claim limitation of "acquiring the initial ACC (Active Channelisation Codes) information for use in implementing JD in next radio frame, through implementing a JD algorithm on the downlink signal by using the primary and secondary channelisation codes" is met by Zeira teaches in (paragraph [0021] To aid in identifying channelization codes, channelization code information, such as transmitted channelization codes or a number of transmitted channelization codes, may be signaled to the UE 14.sub.1. The signaled information can be used in conjunction with channelization/midamble code mapping or when mapping is not used. The additional channelization code information will increase the accuracy in determining the active channelization codes at the UE receiver 28. One such signal would be a layer one signal, where the midamble code or midamble code shift is associated with the information. The midamble

detection device 48 determines the received midamble code(s) and the logic block 45 recovers the channelization code information using the determined midamble codes. Using the recovered information, the channelization code detection device 50 uses the recovered information to aid in the channelization code determination. Another approach signals channelization code information using a layer 2/3 signal. The signal is generated by the network circuitry. The layer 2/3 signal can be used in conjunction with layer one signals or with the midamble/channelization code mapping, Fig.3 Block 48);

Regarding claim 2, the claim limitation of "performing channel estimation on the downlink signal to get the active primary channelisation codes in the specific timeslot" is met by Zeira teaches in (paragraph [0019] At the UE receiver 28, after channel estimation, the transmitted midamble sequences are detected by a midamble sequence detection device 48, 64. Based on the detected midambles, a logic block 45, utilizing the midamble to channelization code mapping 49, determines the set of possible channelization codes);

the claim limitation of "determining the active secondary channelisation codes in the specific timeslot according to the association between the primary and secondary channelisation codes predefined in the channelisation codes allocation rule" is met by Zeira teaches in (paragraph [0019] The MUD device 46 uses the determined channelization codes and the channel response for the midamble sequences associated with the channelization codes to detect the data from all the bursts, 68. Also see Fig. 2, 5 and 6);

Regarding claim 3, the limitations of claim 3 are rejected as being the same reasons set forth above in claim 2.

Regarding claim 5, the claim limitation of "performing JD algorithm on the downlink signal transferred over an ACC dedicated channel by using the primary and secondary channelisation codes to get the initial ACC information" is met by Zeira teaches in (paragraph [0020] The comparator 80 determines the received channelization codes based on the power measurement for each channel. If the number of transmitted channelization codes is known, the comparator 80 selects that number of channels with the highest measured power. Otherwise, the comparator 80 compares each channel's power level to a threshold to determine the transmitted channelization codes);

the claim limitation of "the ACC dedicated channel is the pre-selected code channels in the specific timeslot" is met by Zeira teaches in (paragraph [0019] At the UE receiver 28, after channel estimation, the transmitted midamble sequences are detected by a midamble sequence detection device 48, 64. Based on the detected midambles, a logic block 45, utilizing the midamble to channelization code mapping 49, determines the set of possible channelization codes).

Regarding claim 12, the limitations of claim 12 are rejected as being the same reasons set forth above in claim 5.

Regarding claim 15, the claim limitation of "predicting ACC information of each timeslot in a next radio frame" is met by Zeira teaches in (paragraph [0016]

FIG. 3 illustrates a simplified base station transmitter 26 and a UE receiver 28 using multi-user detection (MUD). Data to be communicated to the active UEs 14_1 to 14_3 is produced by data generators 32_1 to 32_K. Each generator 32_1 to 32_K produces data to be sent in a particular communication burst. Also see Fig. 3, Block 44, 48, 50);

the claim limitation of "transmitting the ACC information in a specific timeslot via an ACC dedicated channel constructed by pre-selected code channels" is met by Zeira teaches in (paragraph [0020] The comparator 80 determines the received channelization codes based on the power measurement for each channel. If the number of transmitted channelization codes is known, the comparator 80 selects that number of channels with the highest measured power. Otherwise, the comparator 80 compares each channel's power level to a threshold to determine the transmitted channelization codes).

Regarding claim 16, the claim limitation of "only permitting a new UE to access at the header of a second frame and subsequent frame in a TTI (transmission time interval)" is met by Zeira teaches in (paragraph [0021] To aid in identifying channelization codes, channelization code information, such as transmitted channelization codes or a number of transmitted channelization codes, may be signaled to the UE 14_1. The signaled information can be used in conjunction with channelization/midamble code mapping or when mapping is not used. The additional channelization code information will increase the accuracy in determining the active channelization codes at the UE receiver 28);

the claim limitation of "wherein the pre-selected code channels are two code channels in the specific timeslot, and the midamble corresponding to a pair of channelisation codes used by the two code channels is different from the midamble used by BCH, and is also different from the midambles reserved by the BS when BCH adopts transmit diversity" is met by Zeira teaches in (paragraph [0021] The midamble detection device 48 determines the received midamble code(s) and the logic block 45 recovers the channelization code information using the determined midamble codes. Using the recovered information, the channelization code detection device 50 uses the recovered information to aid in the channelization code determination).

Regarding claim 17, the limitations of claim 17 are rejected as being the same reasons set forth above in claim 16.

Regarding claim 19, the claim limitation of "allocating a primary channelisation code together with corresponding secondary channelisation code to a UE so that the UE can obtain the secondary channelisation code according to the detected primary channelisation code" is met by Zeira teaches in (paragraph (paragraph [0018] Identifying active channelization codes is shown in the flow chart of FIG. 4. One approach to aid in identifying active channelization codes at the UE 14_1 is to provide a mapping between midamble codes (midamble sequences) 54_1 to 54_N and channelization codes 56_{11} to 56_{NM}, 58. Each midamble sequence 54_1 to 54_N is associated with a set of channelization codes 56_{11} to 56_{NM}, as illustrated in FIG. 5. The sets may contain only a single

channelization code, which is a one to one mapping of midambles to channelization codes. A burst transmitted by the base station 12_1 with a channelization code of a midamble's set is formatted with that midamble sequence, 60, 62. To illustrate, if a burst with channelization code 21 was sent, midamble sequence 2 is used for that burst. Also see paragraph 21);

Regarding claim 20, the claim limitation of "predicting ACC information of each timeslot in a next radio frame" is met by Zeira teaches in (paragraph [0016] FIG. 3 illustrates a simplified base station transmitter 26 and a UE receiver 28 using multi-user detection (MUD). Data to be communicated to the active UEs 14_1 to 14_3 is produced by data generators 32_1 to 32_K. Each generator 32_1 to 32_K produces data to be sent in a particular communication burst. Also see Fig. 3, Block 44, 48, 49, 50 and Fig. 5);

Regarding claim 22, the limitations of claim 22 are rejected as being the same reasons set forth above in claim 1.

Regarding claim 23, the limitations of claim 23 are rejected as being the same reasons set forth above in claim 2.

Regarding claim 24, the limitations of claim 24 are rejected as being the same reasons set forth above in claim 3.

Regarding claim 25, the limitations of claim 25 are rejected as being the same reasons set forth above in claim 5.

Regarding claim 34, the limitations of claim 34 are rejected as being the same reasons set forth above in claim 15.

Regarding claim 35, the limitations of claim 35 are rejected as being the same reasons set forth above in claim 16.

Regarding claim 36, the limitations of claim 36 are rejected as being the same reasons set forth above in claim 17.

Regarding claim 37, the limitations of claim 37 are rejected as being the same reasons set forth above in claim 19.

Regarding claim 38, the limitations of claim 38 are rejected as being the same reasons set forth above in claim 20.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 4, 6-11, 13, 14, 21, 26-33, 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application Public 20020110099 (hereinafter Zeira) in view of US Patent Application Public 20030174668 (hereinafter Gessner).

Regarding claim 4, Zeira discloses all the subject matter of the claimed invention concept except "Fast Physical Access Channel". However, attention is directed to Gessner, which teaches (Abstract, The selected subscriber station (MS1) can subsequently transmit additional sequences to the base station (BS) on a physical access channel (PRACH). A known relationship between the

access sequences (SYNC1) and the physical channels distinctively exists, and at least two physical access channels (PRACH) are assigned to another channel (FPACH)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was make to modify the Zeira invention by employing the teaching as taught by Gessner to separate subscribers, the GSM mobile radio system, by way of example, involves the use of a time-division multiplex method (TDMA) to distinguish between the signal sources. Doing so would merely involve using known technique to simple substitution of one known element for another to obtain predictable results.

Regarding claim 6, Zeira discloses all the subject matter of the claimed invention concept except "the pre-selected code channels are two code channels, and the midamble corresponding to a pair of channelisation codes used by the two code channels is different from the midamble used by BCH, and different from the midambles reserved by the base station when BCH adopts transmit diversity". However, attention is directed to Gessner, which teaches (Abstract, According to the inventive method for controlling access in a radio communications system, several subscriber stations (MS1, MS2) transmit a respective access sequence (SYNC1) to a base station (BS) of the radio communications system on a channel for random access (RACH). Afterwards, the radio communications system signals a selection of a subscriber station (MS1) on another channel (FPACH). The selected subscriber station (MS1) can

subsequently transmit additional sequences to the base station (BS) on a physical access channel (PRACH). A known relationship between the access sequences (SYNC1) and the physical channels distinctively exists, and at least two physical access channels (PRACH) are assigned to another channel (FPACH)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was make to modify the Zeira invention by employing the teaching as taught by Gessner to separate subscribers, the GSM mobile radio system, by way of example, involves the use of a time-division multiplex method (TDMA) to distinguish between the signal sources. Doing so would merely involve using known technique to simple substitution of one known element for another to obtain predictable results.

Regarding claim 7, Zeira discloses all the subject matter of the claimed invention concept except "performing JD algorithm on the ACC dedicated channel in the next radio frame by using the initial ACC information to get the ACC information for subsequent radio frame and performing a JD algorithm on the signal received in the next radio frame from the network system by using the initial ACC information to demodulate the information from the network system". However, attention is directed to Gessner, which teaches (paragraph [0005] to implement a random access method (initial access) in a mobile radio system, various approaches are known. Both for TRA FDD and for TDSCDMA (or UTRA TDD Low Chip Rate Option), two-stage random access procedures are used.

This means that the subscriber station wishing to set up a connection to the network starts by sending a sequence (e.g. preamble in FDD, SYNC1 code in TDSCDMA)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was make to modify the Zeira invention by employing the teaching as taught by Gessner to separate subscribers, the GSM mobile radio system, by way of example, involves the use of a time-division multiplex method (TDMA) to distinguish between the signal sources. Doing so would merely involve using known technique to simple substitution of one known element for another to obtain predictable results.

Regarding claim 8, the claim limitation of "performing JD algorithm on the ACC dedicated channel in a radio frame by using the ACC information obtained in a previous radio frame to get the ACC information for the subsequent radio frame and performing JD algorithm on the signal received in the radio frame from the network system by using the ACC information obtained in the previous radio frame to demodulate the information from the network system" is met by Zeira teaches in (paragraph [0018] Identifying active channelization codes is shown in the flow chart of FIG. 4. One approach to aid in identifying active channelization codes at the UE 14_1 is to provide a mapping between midamble codes (midamble sequences) 54_1 to 54_N and channelization codes 56_{11} to 56_{NM}, 58. Each midamble sequence 54_1 to 54_N is associated with a set of channelization codes 56_{11} to 56_{NM}, as illustrated in FIG. 5. The sets may contain only a single

channelization code, which is a one to one mapping of midambles to channelization codes. A burst transmitted by the base station 12_1 with a channelization code of a midamble's set is formatted with that midamble sequence, 60, 62. To illustrate, if a burst with channelization code 21 was sent, midamble sequence 2 is used for that burst. Also see paragraph 19 and 20);

Regarding claim 9, the limitations of "receiving the system information from the network system" is met by Zeira teaches in (Abstract, The UE detects channelization codes in the received communication burst from among the determined channelization codes);

the claim limitation of "determining whether there is a FPACH according to the system information and determining whether the FPACH is activated according to the midamble shift in the system information, if there is the FPACH" is met by Zeira teaches in (paragraph [0021] To aid in identifying channelization codes, channelization code information, such as transmitted channelization codes or a number of transmitted channelization codes, may be signaled to the UE 14.sub.1. The signaled information can be used in conjunction with channelization/midamble code mapping or when mapping is not used. The additional channelization code information will increase the accuracy in determining the active channelization codes at the UE receiver 28. One such signal would be a layer one signal, where the midamble code or midamble code shift is associated with the information. The midamble detection device 48 determines the received midamble code(s) and the logic block 45 recovers the

channelization code information using the determined midamble codes. Using the recovered information, the channelization code detection device 50 uses the recovered information to aid in the channelization code determination. Another approach signals channelization code information using a layer 2/3 signal. The signal is generated by the network circuitry. The layer 2/3 signal can be used in conjunction with layer one signals or with the midamble/channelization code mapping, Fig.3 Block 48);

Although, Zeira does not explicitly teach “FPACH is activated”. However, attention is directed to Gessner, which teaches (paragraph [0005] this means that the subscriber station wishing to set up a connection to the network starts by sending a sequence (e.g. preamble in FDD, SYNC1 code in TDSCDMA). Only if this sequence is answered in the positive by the network (e.g. using the physical channels AICH (FDD) or FPACH (TDSCDMA)) is access continued and the actual random access message containing some relevant information is sent on the "physical random access channel" (PRACH)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was make to modify the Zeira invention by employing the teaching as taught by Gessner to separate subscribers, the GSM mobile radio system, by way of example, involves the use of a time-division multiplex method (TDMA) to distinguish between the signal sources. Doing so would merely involve using known technique to simple substitution of one known element for another to obtain predictable results.

Regarding claim 10, the limitations of "determining whether the network system adopts common midamble to transmit signal, according to the system information" is met by Zeira teaches in (Abstract, The UE detects channelization codes in the received communication burst from among the determined channelization codes);

the claim limitation of "determining whether the FPACH is activated according to the association between the number of channelisation codes and the midamble shift and the ACC information, if common midamble is adopted to transmit signal" is met by Zeira teaches in (paragraph [0021] To aid in identifying channelization codes, channelization code information, such as transmitted channelization codes or a number of transmitted channelization codes, may be signaled to the UE 14.sub.1. The signaled information can be used in conjunction with channelization/midamble code mapping or when mapping is not used. The additional channelization code information will increase the accuracy in determining the active channelization codes at the UE receiver 28. One such signal would be a layer one signal, where the midamble code or midamble code shift is associated with the information. The midamble detection device 48 determines the received midamble code(s) and the logic block 45 recovers the channelization code information using the determined midamble codes. Using the recovered information, the channelization code detection device 50 uses the recovered information to aid in the channelization code determination. Another approach signals channelization code information using a layer 2/3 signal. The

signal is generated by the network circuitry. The layer 2/3 signal can be used in conjunction with layer one signals or with the midamble/channelization code mapping, Fig.3 Block 48);

Although, Zeira does not explicitly teach “FPACH is activated”. However, attention is directed to Gessner, which teaches (paragraph [0005] this means that the subscriber station wishing to set up a connection to the network starts by sending a sequence (e.g. preamble in FDD, SYNC1 code in TDSCDMA). Only if this sequence is answered in the positive by the network (e.g. using the physical channels AICH (FDD) or FPACH (TDSCDMA)) is access continued and the actual random access message containing some relevant information is sent on the "physical random access channel" (PRACH).).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was make to modify the Zeira invention by employing the teaching as taught by Gessner to separate subscribers, the GSM mobile radio system, by way of example, involves the use of a time-division multiplex method (TDMA) to distinguish between the signal sources. Doing so would merely involve using known technique to simple substitution of one known element for another to obtain predictable results.

Regarding claim 11, the limitations of claim 11 are rejected as being the same reasons set forth above in claim 10.

Regarding claim 13, the limitations of “determining whether the network system adopts beam forming to transmit signal, according to the system

information and if beam forming is adopted to transmit signal, performing a JD algorithm on the signal received in the downlink timeslot from the network system by using the ACC corresponding to the detected midamble in the ACC information to demodulate the information from the network system" is met by Zeira teaches in (paragraph [0021] To aid in identifying channelization codes, channelization code information, such as transmitted channelization codes or a number of transmitted channelization codes, may be signaled to the UE 14.sub.1. The signaled information can be used in conjunction with channelization/midamble code mapping or when mapping is not used. The additional channelization code information will increase the accuracy in determining the active channelization codes at the UE receiver 28. One such signal would be a layer one signal, where the midamble code or midamble code shift is associated with the information. The midamble detection device 48 determines the received midamble code(s) and the logic block 45 recovers the channelization code information using the determined midamble codes. Using the recovered information, the channelization code detection device 50 uses the recovered information to aid in the channelization code determination. Another approach signals channelization code information using a layer 2/3 signal. The signal is generated by the network circuitry. The layer 2/3 signal can be used in conjunction with layer one signals or with the midamble/channelization code mapping, see Fig.3 Block 48 and paragraph 17);

Regarding claim 14, the claim limitation of "reading the ACC information transferred by the network system over the ACC dedicated channel, at least in every radio frame" is met by Zeira teaches in (paragraph [0021] To aid in identifying channelization codes, channelization code information, such as transmitted channelization codes or a number of transmitted channelization codes, may be signaled to the UE 14.sub.1. The signaled information can be used in conjunction with channelization/midamble code mapping or when mapping is not used. The additional channelization code information will increase the accuracy in determining the active channelization codes at the UE receiver 28. One such signal would be a layer one signal, where the midamble code or midamble code shift is associated with the information. The midamble detection device 48 determines the received midamble code(s) and the logic block 45 recovers the channelization code information using the determined midamble codes. Using the recovered information, the channelization code detection device 50 uses the recovered information to aid in the channelization code determination. Another approach signals channelization code information using a layer 2/3 signal. The signal is generated by the network circuitry. The layer 2/3 signal can be used in conjunction with layer one signals or with the midamble/channelization code mapping, Fig.3 Block 48);

Regarding claim 21, Zeira discloses all the subject matter of the claimed invention concept except "Fast Physical Access Channel". However, attention is directed to Gessner, which teaches (Abstract, The selected subscriber station

(MS1) can subsequently transmit additional sequences to the base station (BS) on a physical access channel (PRACH). A known relationship between the access sequences (SYNC1) and the physical channels distinctively exists, and at least two physical access channels (PRACH) are assigned to another channel (FPACH)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was make to modify the Zeira invention by employing the teaching as taught by Gessner to separate subscribers, the GSM mobile radio system, by way of example, involves the use of a time-division multiplex method (TDMA) to distinguish between the signal sources. Doing so would merely involve using known technique to simple substitution of one known element for another to obtain predictable results.

Regarding claim 26, the limitations of claim 26 are rejected as being the same reasons set forth above in claim 6.

Regarding claim 27, the limitations of claim 27 are rejected as being the same reasons set forth above in claim 7.

Regarding claim 28, the limitations of claim 28 are rejected as being the same reasons set forth above in claim 9.

Regarding claim 29, the limitations of claim 29 are rejected as being the same reasons set forth above in claim 10.

Regarding claim 30, the limitations of claim 30 are rejected as being the same reasons set forth above in claim 11.

Regarding claim 31, the limitations of claim 31 are rejected as being the same reasons set forth above in claim 7.

Regarding claim 32, the limitations of claim 32 are rejected as being the same reasons set forth above in claim 13.

Regarding claim 33, the limitations of claim 33 are rejected as being the same reasons set forth above in claim 14.

Regarding claim 39, the limitations of claim 39 are rejected as being the same reasons set forth above in claim 21.

10. Claims 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application Public 20020110099 (hereinafter Zeira) in view of US Patent Application Public 20030128742 (hereinafter Johnson).

Regarding claim 18, Zeira discloses all the subject matter of the claimed invention concept except "the shortest time interval". However, attention is directed to Johnson, which teaches (paragraph [0003] The communication transmitted in any timeslot by the given user can be superimposed across communications from other users by multiplying the signal from each user by a respective binary sequence, known as a spreading code. Binary sequences suitable for use as spreading codes have a higher data rate than the communications signal and are mutually independent and ultimately separable. The higher data rate bits of spreading codes are known as chips).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was make to modify the Zeira invention by employing the teaching as taught by Johnson to provide method of post-processing the results of a joint detection algorithm with unknown spreading factors in mobile telecommunications systems. Doing so would merely involve using known technique to simple substitution of one known element for another to obtain predictable results.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. US Patent Application Public 20030021335 for De.

b. US Patent Application Public 20060109806 for Kwak.

c. US Patent Application Public 20020131379 for Lee.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHUONG A. NGO whose telephone number is 571-270-7264. The examiner can normally be reached on Monday 7:00AM to 5:30PM, Tuesday through Thursday 6:00AM to 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Abul Azad can be reached on 571-272-7599. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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